UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/704,936	11/02/2000	Lee A Neitzel	06005/35528	4816

7590   08/09/2005

Roger A Heppermann
Marshall O'Toole Gerstein Murray & Borun
6300 Sears Tower
233 South Wacker Drive
Chicago, IL 60606-6402

EXAMINER
LEE, ANDREW CHUNG CHEUNG

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/704,936	NEITZEL ET AL.
	Examiner	Art Unit	
	Andrew C. Lee	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *24 March 2005*.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-56* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-56* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1 – 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Toporek et al. (U.S. Patent No. 6654344 B1) in view of Owa et al. (U.S. Patent No.

6711379 B1).

Regarding Claims 1, 17, 29, 49,Toporek et al. discloses the limitation of

transmitting data through a communication link having a bandwidth using a plurality of

communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64); And delivering the

messages to an underlying layer of the plurality of communication connections so that

each communication connection uses no more than a predetermined portion of the

bandwidth (column 8, lines 24 – 26; column 12, lines 32 – 35; column 13, lines 52 – 56;

column 17, lines 9 – 19; lines 48 – 55). Toporek et al. does not disclose expressly the

method comprising the steps of establishing a worker object for each one of the

communication connections; distributing the data amongst the worker objects; forming

messages using the distributed data within each worker object. Owa et al. discloses the

limitation of the method comprising the steps of establishing a worker object for each

one of the communication connections (Fig. 2, elements 12 – 14; column 3, lines 12 –

15); distributing the data amongst the worker objects (column 6, lines 53 – 57); forming

messages using the distributed data within each worker object (column 8, lines 31 –

34). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Toporek et al. to include a method comprising the steps

of establishing a worker object for each one of the communication connections;

distributing the data amongst the worker objects; forming messages using the

distributed data within each worker object such as that taught by Owa et al. in order to

provide a digital broadcasting system for broadcast multimedia data consisting of

picture, sound, text to a terminal devices.

Regarding Claim 2, Toporek et al. discloses the limitation of the method of

claimed further comprising the step of allocating a predetermined portion of the

bandwidth to each of the plurality of communication connections (Fig. 3A, Fig. 3F, Fig.

3G; column 8, lines 24 – 26; column 12, lines 32 – 38; column 13, lines 52 – 56).

Regarding Claim 3, Toporek al. discloses the limitation of the method of claimed

wherein the step of allocating the predetermined portion of the bandwidth to each of the

plurality of communication connections including the step of allocating different

predetermined portions of the bandwidth to two of the plurality of communication

connections (Fig. 3A, Fig. 3F, Fig. 3G; column 13, lines 52 – 56; column 17, lines 9 –

19; lines 48 – 55; column 8, lines 24 – 26; column 12, lines 37 – 48;).

Regarding Claims 4, 35, Toporek et al. discloses the limitation of the method of

claimed wherein the step of allocating the predetermined portion of the bandwidth to

each of the plurality of communication connections including the step of setting a time

between calls parameter for each of the plurality of communication connections (Fig. 3G, column 13, lines 52 – 56; column 17, lines 9 – 19; lines 48 – 55).

Regarding Claims 5, 36, Toporek et al. discloses the limitation of the method of claimed wherein the step of allocating the predetermined portion of the bandwidth to each of the plurality of communication connections including the step of setting a message size parameter for each of the plurality of communication connections (Fig. 3A, Fig. 3C, Fig. 3F, Fig. 3G; column 13, lines 52 – 56; column 14, lines 41 – 67; column 15, lines 33 – 36; column 17, lines 48 – 55).

Regarding Claims 6, 28, 37, 45, 54, Toporek et al. discloses the limitation of the method of claimed wherein the step of allocating the predetermined portion on the bandwidth to each of the plurality of communication connections including the step of setting, a sending buffer size for each of the plurality of communication connections (column 13, lines 52 – 56; column 17, lines 9 – 19; lines 48 – 55; column 16, lines 41 – 43).

Regarding Claims 7, 44, 51, 53, Toporek et al. discloses the limitation of the method of claimed wherein the step of allocating the predetermined portion of the bandwidth to each of the plurality of communication connections includes the step of setting a message size parameter and a time between calls parameter for each of the plurality of communication connections (Fig. 3G, column 13, lines 52 – 56; column 17, lines 9 – 19; lines 48 – 55; column 15, lines 34 – 36).

Regarding Claim 8, Toporek et al. discloses the limitation of the method of claimed wherein the step of establishing the worker object for each one of the plurality

of communication connections including the step of using the worker object to

instantiate one of the plurality of communication connections (column 17, lines 47 – 55).

Regarding Claims 9, 19, Toporek et al. discloses the limitation of transmitting

data through a communication link having a bandwidth using a plurality of

communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does

not disclose expressly the method of claimed further comprising the step of partitioning

the data to form a plurality of partitioned data streams prior to distributing the data

amongst the worker. Owa et al. discloses the limitation of the method of claimed further

comprising the step of partitioning the data to form a plurality of partitioned data streams

prior to distributing the data amongst the worker (Fig. 2, elements 12, 13, 14; column 6,

lines 53 – 56). It would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify Toporek et al. to include the method of claimed

further comprising the step of partitioning the data to form a plurality of partitioned data

streams prior to distributing the data amongst the worker such as that taught by Owa et

al. in order to provide a digital broadcasting system for broadcast multimedia data

consisting of picture, sound, text to a terminal devices.

Regarding Claims 10, 20, 31, 46, 47, 50,Toporek et al. discloses the limitation of

transmitting data through a communication link having a bandwidth using a plurality of

communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does

not disclose expressly the method of claimed wherein the step of partitioning the data to

form a plurality of partitioned data streams prior to distributing the data amongst the

worker objects including the step of partitioning the data based on a type of data. Owa

et al. discloses the limitation of the method of claimed wherein the step of partitioning

the data to form a plurality of partitioned data streams prior to distributing the data

amongst the worker objects including the step of partitioning the data based on a type of

data (Fig. 2, elements 12, 13, 14; column 6, lines 53 – 61). It would have been obvious

to one of ordinary skill in the art at the time the invention was made to modify Toporek

et al. to include the method of claimed wherein the step of partitioning the data to form a

plurality of partitioned data streams prior to distributing the data amongst the worker

objects including the step of partitioning the data based on a type of data such as that

taught by Owa et al. in order to provide a digital broadcasting system for broadcast

multimedia data consisting of picture, sound, text to a terminal devices.

Regarding Claims 11, 21, 33, 48, Toporek et al. discloses the limitation of

transmitting data through a communication link having a bandwidth using a plurality of

communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does

not disclose expressly the method of claimed wherein the step of partitioning the data to

form a plurality of partitioned data streams including the step of establishing a one-to-

one corresponding between the plurality of partitioned data streams and worker objects.

Owa et al. discloses the limitation of the method of claimed wherein the step of

partitioning the data to form a plurality of partitioned data streams including the step of

establishing a one-to-one corresponding between the plurality of partitioned data

streams and worker objects (Fig. 2, elements 12, 13, 14; column 6, lines 53 – 61). It

would have been obvious to one of ordinary skill in the art at the time the invention was

made to modify Toporek et al. to include the method of claimed wherein the step of

partitioning the data to form a plurality of partitioned data streams including the step of

establishing a one-to-one corresponding between the plurality of partitioned data

streams and worker objects such as that taught by Owa et al. in order to provide a

digital broadcasting system for broadcast multimedia data consisting of picture, sound,

text to a terminal devices.

Regarding Claims 12, 22, Toporek et al. discloses the limitation of transmitting

data through a communication link having a bandwidth using a plurality of

communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does

not disclose the method of claimed wherein the step of distributing the data amongst the

worker objects including the step of transferring a subset of the data to one of the

worker objects in response to a request for data from the one worker object. Owa et al.

discloses the limitation of the method of claimed wherein the step of distributing the data

amongst the worker objects including the step of transferring a subset of the data to one

of the worker objects in response to a request for data from the one worker object (Fig.

2, elements 12, 13, 14; column 13, lines 30 – 41). It would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify Toporek et al. to

include the method of claimed wherein the step of distributing the data amongst the

worker objects including the step of transferring a subset of the data to one of the

worker objects in response to a request for data from the one worker object such as that

taught by Owa et al. in order to provide a digital broadcasting system for broadcast

multimedia data consisting of picture, sound, text to a terminal deices.

Regarding Claims 13, 23, 30, Toporek et al. discloses the limitation of

transmitting data through a communication link having a bandwidth using a plurality of

communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does

not disclose the method of claimed wherein the step of distributing the data amongst the

worker objects including the step of using a data transmission object. Owa et al.

discloses the limitation of claimed wherein the step of distributing the data amongst the

worker objects including the step of using a data transmission object (column 8, lines 38

– 52). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Toporek et al. to include the method of claimed wherein

the step of distributing the data amongst the worker objects including the step of using a

data transmission object such as that taught by Owa et al. in order to provide a digital

broadcasting system for broadcast multimedia data consisting of picture, sound, text to

a terminal deices.

Regarding Claims 14, 24, 25, 43, 52, Toporek et al. discloses the method of

claimed wherein the step of forming the messages using the distributed data within

each worker object including the step of forming the messages within each worker

object using a parameter of that worker object that controls the size of the messages

(column 13, element 327, lines 53 – 56).

Regarding Claims 15, 26, 34, Toporek et al. discloses the limitation of the

method of claimed wherein the step of delivering the messages formed within one of the

worker objects including the step of delivering the messages formed within the one

worker object to the underlying layer based on a parameter of the one worker object

that affects the rate at which the messages are delivered to the underlying layer
(column 15, lines 35 – 39).

Regarding Claims 16, 27, 42, 56, Toporek et al. discloses the limitation of the
method of claimed wherein the step of delivering the messages formed within the one
worker object to the underlying layer based on the parameter of the one worker object
that affects the rate at which the messages are delivered to the underlying layer
including the step of using a time between calls parameter (column 4, lines 1 – 14).

Regarding Claim 18, Toporek et al. discloses the limitation of the system of
claimed wherein each of the plurality of worker objects is adapted to instantiate a
communication connection (column 17, lines 47 – 52).

Regarding Claim 32, Toporek et al. discloses the limitation of transmitting data
through a communication link having a bandwidth using a plurality of communication
connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does not disclose
expressly the system of claimed wherein each of the plurality of worker processes is
based on a worker object. Owa et al. discloses the limitation of the system of claimed
wherein each of the plurality of worker processes is based on a worker object (column
6, lines 34 – 36; lines 53 – 61). It would have been obvious to modify Toporek et al. to
include the system of claimed wherein each of the plurality of worker processes is
based on a worker object such as that taught by Owa et al. in order to provide a digital
broadcasting system for broadcast multimedia data consisting of picture, sound, text to
a terminal deices.

Regarding Claim 38, Toporek et al. discloses the limitation of a system for

transmitting data through a communication link (Fig. 1, column 1, lines 31 – 34)

comprsing: a communication station having a processor and a memory

communicatively coupled to the processor (column 6, lines 1 – 15; elements 111B, 123

), wherein the processor is programmed to provide a plurality of work objects that each

instantiates a separate communication connection through the communication link and

wherein each of the plurality of worker objects includes a set of communication

connection parameters that are uniquely configurable to determine the manner in which

the data is sent to an underlying layer of the communication link (column 3, line 67;

column 4, lines 1- 14).

Regarding Claim 39, Toporek et al. discloses the limitation of the system of

claimed wherein the communication station is a sending communication gateway (Fig.

2, elements 205 and 207; column 3, line 11 – 12).

Regarding Claim 40, Toporek et al. discloses the limitation of the system of

claimed wherein the communication station is a receiving communication gateway (Fig.

2, elements 203 and 201; column 3, line 11 – 12).

Regarding Claim 41, Toporek et al. discloses the limitation of the system of

Claimed wherein each of the separate communication connection using a connection-

oriented communication protocol (Fig. 2, elements 229 and 251; column 2, line 11).

Regarding Claim 55, Toporek et al. discloses the limitation of the method of

claimed wherein the step of uniquely configuring the set of communication connection

parameters uniquely associated with each of the worker processes including the steps

of configuring the sets of communication connection parameters to provide a reserved

bandwidth for retransmission (column 7, lines 7 – 14).

Response to Arguments

3.   Applicant's arguments with respect to claims 1, 17, 29, 38 and 49 have been

considered but they are not persuasive. Regarding claims 1, 17, 29, 38 and 49,

Applicant mainly argues neither of Toporek and Owa teaches any mechanism for

ensuring that each of a plurality of communication connections uses no more than a

predetermined portion of a bandwidth of a communication link. Examiner contends

Toporek discloses the connection process uses a plurality of separate connections

using a "handshaking routine" in the satellite system to provide a transparent TCP

connection to an end user; Toporek also further teaches processing is performed to

maintain a suitable or predetermined data rate over the satellite device. The processing

may require buffering of packets in order to avoid overloading the satellite link. This

indicates explicitly and implicitly mechanism for ensuring that each of a plurality of

communication connections uses no more than a predetermined portion of a bandwidth

of a communication link.

Conclusion

4.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Andrew C Lee whose telephone number is (571) 272-

3131. The examiner can normally be reached on Monday through Friday from 8:30am -

5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wellington Chin can be reached on (703) 305-4366. The fax phone number

for the organization where this application or proceeding is assigned is 571-272-3131.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

ACL   Aug 05, 2005

Ajit Patel
Primary Examiner